Collard & Roe, P.C.

1077 Northern Blvd
Roslyn, NY 11576
Ph. 516-365-9802
Fax. 516-365-9805
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Fax

To:	Examiner Fogarty	**From:**	Elizabeth C. Richter
Fax:	571 270-4589	**Pages:**	3
Phone:		**Date:**	September 9, 2010
Re:	USSN 10/589,215	**cc:**	

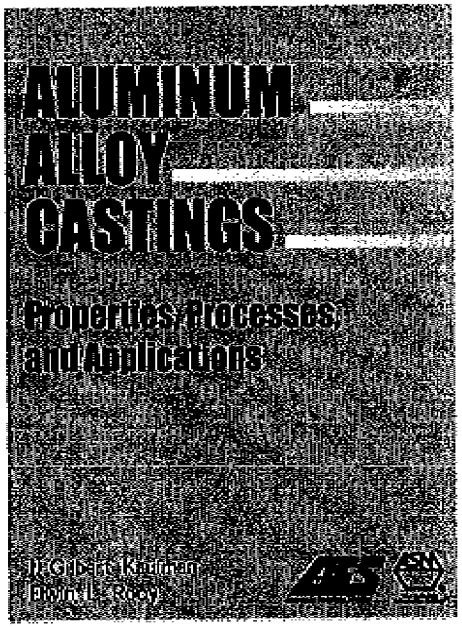
• **Comments:**

Dear Ms. Fogarty:

Attached please find an excerpt from the book "Aluminum Alloy Castings" dated December 2004. I look forward to discussing this and the prior art rejections of claims 31-33 with you and Mr. King at 10:30am on Tuesday, September 14

Sincerely,

Elizabeth C. Richter
Reg. No. 35, 103



Library of Congress Cataloging-in-Publication Data

Kaufman, J. G. (John Gilbert), 1931-
Aluminum alloy casting : properties, processes and applications/J. Gilbert Kaufman, Edwin L. Rooy.
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Includes bibliographical references and index.
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2.5.2 Beryllium

Additions of a few parts per million beryllium can be effective in reducing oxidation losses and associated inclusions in magnesium-containing compositions.

At higher concentrations (>0.04%), beryllium affects the form and composition of iron-containing intermetallics, markedly improving strength and ductility. In addition to changing the morphology of the insoluble phase from script or plate to nodular form, beryllium changes its composition, rejecting magnesium from the Al-Fe-Si complex and thus permitting its full use for hardening purposes.

Beryllium-containing compounds are, however, known carcinogens that require specific precautions in melting, molten metal handling, dross handling, dross disposition, and welding.

2.5.3 Bismuth

compositions, but it is rarely encountered in gravity casting alloys. Chromium improves corrosion resistance in certain alloys and increases quench sensitivity at higher concentrations.

2.5.8 Copper

Copper substantially improves strength and hardness in the as-cast and heat treated conditions. Alloys containing 4 to 5.5% Cu respond most strongly to thermal treatment and display relatively improved casting properties. Copper generally reduces resistance to general corrosion and in specific compositions and material conditions increases stress-corrosion susceptibility. Conversely, low concentrations of copper in aluminum-zinc alloys inhibit stress corrosion.

Copper reduces hot tear resistance and increases the potential for interdendritic shrinkage.

2.5.9 Iron

First printing, December 2004

Comments, criticisms, and suggestions are invited and should be forwarded to ASM International.

Prepared under the direction of the ASM International Technical Books Committee (2003-2004), Yip-Wah Chung, FASM, Chair.

ASM International staff who worked on this project include Scott Henry, Senior Manager of Product and Service Development; Charles Moosbrugger, Technical Editor; Bonnie Sanders, Manager of Production; Carol Polakowski, Production Supervisor; and Pattie Pace, Production Coordinator.

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